UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

May 16, 2016

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Re: OEP/DG2E/Gas 2; Golden Pass Products LLC and Golden Pass Pipeline LLC; Docket Nos. CP14-517-000 and CP14-518-000

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Federal Energy Regulatory Commission (FERC) Draft Environmental Impact Statement (DEIS) for the Golden Pass LNG Export Project (Project). The purpose of the Project is to expand the existing terminal and pipeline in order to liquefy and export domestic natural gas to global markets.

EPA's review identified a number of potential adverse impacts to wetlands and aquatic resources. In addition, we request additional information regarding environmental justice communities, air quality, indirect effects, greenhouse gas emissions, and wetlands to provide a more complete analysis. For these reasons we have rated the Draft EIS as "Environmental Concerns – Insufficient Information" (EC-2). The EPA's Rating System Criteria can be found at http:/www.epa.gov/compliance/nepa/comments/ratings.html. EPA recommends that these issues be addressed in the Final EIS. We have enclosed detailed comments which clarify our concerns.

EPA appreciates the opportunity to review the Draft EIS. Please send our office one copy of the Final EIS when it is electronically filed with the Office of Federal Activities. If you have any questions or concerns, I can be reached at 214-665-8565, or contact Stephanie Meyers of my staff at meyers.stephanie@epa.gov or 214-665-6496, or Keith Hayden at hayden.keith@epa.gov or 214-665-2133.

Sincerely,

Robert Houston

Robert Houston
Chief, Special Projects Section

Enclosures

DETAILED COMMENTS ON THE
FEDERAL ENERGY REGULATORY COMMISSION
DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE GOLDEN PASS LNG EXPORT PROJECT

BACKGROUND: The Golden Pass LNG Export Project consists of the Golden Pass Export Terminal Expansion and the Golden Pass Export Pipeline Expansion. These expansions will involve adding liquefaction facilities at the existing Golden Pass Import Terminal and modifying the existing Golden Pass Pipeline by constructing approximately 2.6 miles of new 24-inch diameter pipeline, associated compressor stations, and appurtenant facilities in order to liquefy and export domestic natural gas to global markets.

ENVIRONMENTAL JUSTICE

The DEIS provides county, parish and state level population demographics. It does not provide analysis of the surrounding communities within a 5 mile radius of the project to determine whether there are potentially affected low-income or minority populations. Therefore, based on the information provided, it is difficult to determine whether there may be disproportionate high and adverse human health or environmental effects on the surrounding population.

Recommendation:

- Utilize EPA's EJSCREEN, NEPAssist and/or other applicable tools to determine population demographics within 5 miles of the Project's location.
- Analyze the potential for Environmental Justice issues within 5 miles of the project area, using the methods outlined in the Council on Environmental Quality's guidance ("Environmental Justice: Guidance under the National Environmental Policy Act," December 1977), available at http://energy.gov/nepa/downloads/environmental-justice-guidance-under-nepa.
- Consider "Promising Practices for EJ Methodologies in NEPA Reviews: Report of the Federal Interagency Working Group on Environmental Justice and NEPA Committee, March 2016, available at http://epa.gov/environmentaljustice/ej-iwg-promising-practices-ej-methodologies-nepa-reviews.
- Determine whether minority and low-income populations are present that have the potential to be affected by the proposed project. As part of that analysis, for example, we recommend that the Final EIS include a comparison of the demographics of the project area and suitable reference areas.
- Determine whether there may be disproportionate high and adverse human health or environmental impacts on the surrounding population, and list measures to address and mitigate those impacts.
- Develop a community engagement and outreach plan; state how outreach was conducted; and document community concerns. Include a discussion on how the concerns will be addressed, and include any agreed mitigation activities.

- Briefly discuss the potential scenarios associated with the project that could adversely impact the Environmental Justice community.
- Provide a brief discussion of the thermal radiation distance relative to Environmental Justice population of all applicable sources, including all sumps.

AIR QUALITY

The DEIS contains outdated information regarding the National Ambient Air Quality Standards (NAAQS). On October 1, 2015, EPA revised the ozone standard to 70 parts per billion. Please revise Section 4.0 – Environmental Impact Analysis and any modeling analysis that was based on the 2008 ozone standard to reflect the new standard.

INDIRECT EFFECTS

The DEIS did not fully consider the potential for increased natural gas production as a result of the proposed terminal and the potential for environmental impacts associated with these potential increases. Both FERC and the Department of Energy (DOE) have recognized that an increase in natural gas exports will result in increased production.[1] DOE has released a draft study that provides the kind of conceptual level analysis of the types of impacts that are likely to occur from increased production: "Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States."[2] DOE's work also recognizes that many of the potential impacts will vary considerably by the production location due to differences in local environment, regulatory structure, and other factors. We recommend that this study be considered as part of the analysis for this project.

CLIMATE

Greenhouse Gas Emissions:

The DEIS included analysis of the greenhouse gas (GHG) emissions associated with construction of the project, and annual emissions from the operation of the liquefaction facility, but did not include estimates of the GHG emissions associated with the production, transport, and combustion of the natural gas proposed to be exported. Because of the global nature of climate change, even where the ultimate end use of the natural gas occurs outside the US, these additional greenhouse gas emissions attributable to the project would affect the U.S. Because of these impacts, it is appropriate and consistent with NEPA and CEQ regulations to consider and disclose these types of emissions in NEPA analyses. We also note that FERC's DEIS for the Jordan Cove Energy and Pacific Connector Gas Pipeline project included useful calculations of

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[1] Effect of Increased Natural Gas Exports on Domestic Energy Markets, as requested by the Office of Fossil Energy. US Energy Information Administration. January 2012 (http://energy.gov/sites/prod/files/2013/04/f0/fe_eia_lng.pdf) and Cameron LNG EIS, Appendix L (Response to Comments), p. L-36 (http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13530753)

[2] Draft Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States. DOE. (http://energy.gov/sites/prod/files/2014/05/f16/Addendum_0.pdf)

GHG emissions from end use of the gas exported by the facility, and we recommend that similar calculations be considered as part of the analysis and decision making for this project.

DOE has issued two documents that are informative in assessing the GHG emissions implications of the project. In addition to the Addendum mentioned above, the NETL's report, entitled "Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States"[3] is relevant. Together, these reports provide a helpful overview of GHG emissions from all stages of a project, from production through transmission and combustion. The NETL report includes comparative analysis of GHG emissions associated with other domestic fuel sources and LNG exports as they relate to other possible fuel sources in receiving regions. This information can help decision makers review foreseeable GHG emissions associated with the increased production and export of natural gas compared to other possible fuels. EPA recommends that both DOE reports be considered as part of the decision making process for this project and incorporated by reference in future NEPA documents. FERC may also want to consider adapting DOE's analysis to more specifically consider the GHG implications of projects.

The FERC states no standard methodology exists to determine the proposed Project's incremental contribution to GHGs that would have physical effects on the global environment. Peer-reviewed methodologies exist for measuring incremental contributions to the effects of climate change; we recommend removing this language in the Final EIS. For purposes of informing decision makers and the public, we recommend using estimated direct and indirect GHG emissions levels as a general proxy to compare emissions levels from the proposal, alternatives, and potential mitigation.

CONSULTATION AND COORDINATION

Table 1.5-1, on page 1-10, lists the consultations FERC must complete. In addition to the consultations listed, EPA continues to recommend that the following be added to the table:

- EPA – section 1424(e) of the Safe Drinking Water Act of 1974 – The DEIS states "The Chicot Aquifer in Louisiana has been designated by EPA as a sole-source aquifer (EPA 2008). The Pipeline Expansion, MP 66 Compressor Station, TGP Interconnect, TETCO Interconnect, and Transco Interconnect in Louisiana would overlie a sole-source aquifer". Please consult EPA for potential impacts to the Chicot SSA.
- FEMA – Executive Order (EO) 11988 – Many project components will be built inside FEMA designated 100-year flood zones. While levee and other protections are in place, development inside a floodplain still requires consultation with FEMA or a designated county Floodplain Administrator.
- NRCS – Farmland Protection Policy Act (FPPA) – Temporary and permanent impacts to prime farmland soils are described in the DEIS. Regardless of the amount of soils impacted, consultation with the National Resource Conservation Service, or their designated local representative, needs to occur.

[3] Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States. DOE/NETL-2014/1649 (http://energy.gov/fe/life-cycle-greenhouse-gas-perspective-exporting-liquefied-natural-gas-united-states)

- RRC – Please file documentation of the coastal consistency determination from the Texas Railroad Commission prior to construction.

The opinions of resource agencies tasked with the duty to carry out consultation are important and should be included in the FEIS. Without these opinions, interested parties are not able to fully assess the impacts of the project.

GENERAL COMMENTS

- Page 4-158 classifies daytime hours as 7:00am – 10:00pm, and says construction will take place between these hours when feasible. We recommend not defining 10:00 p.m. as daytime. The vast majority of construction projects with noise sensitive receptors adhere to a 7:00am – 7:00pm construction schedule. Please modify the description of daytime hours and adhere to a 7:00am – 7:00pm construction schedule as much as possible.
- Page ES-2 of both the Administrative Draft EIS and DEIS contain information under the paragraph titled "Terminal Expansion" regarding the facilities that would be included in the expansion. Please clarify any changes made to the facilities included in the expansion, and potential changes in impacts due to these changes.

ATTACHMENT 1

Golden Pass LNG Export Project
Draft Environmental Impact Statement
General and Specific Section 404 CWA Comments

Draft Resource Reports – previous comments

- Comment: EPA previously commented on the draft Resource Reports for this project, and Golden Pass responded to our comments. However, the Draft EIS does not appear to incorporate many of the issues we raised or recommendations we made. Specifically, EPA made the following comment in regards to wetlands impacts and water dependency.

  > "While Golden Pass explains why the project needs to have shipping access, and thus why it is water-dependent in that respect, it doesn't explain why other aspects of the project that will impact waters of the U.S. (facility expansion, laydown areas, pipeline connections, etc.) are water-dependent. Why couldn't these facility components be located in areas that are not waters of the U.S?"

  Recommendation: Address the water-dependency of various aspects of the proposed project that will impact wetlands in the Final EIS and explain why they could not be located in areas that don't impact waters of the U.S.

Draft Mitigation Plan – previous comments

- Comment: EPA provided extensive comments to Golden Pass on the draft mitigation plan, and posted comments on the FERC docket. However, our comments were not addressed in the DEIS.

  Recommendation: Provide a detailed response to our comments on the draft mitigation plan in the Final EIS.

Alternatives Analysis

- Comment: While the Port Arthur Liquefaction alternative may impact largely un-impacted habitat, it is not clear to us that this means it would impact more wetland habitat, than the proposed alternative.

  Recommendation: Provide the details of any analysis done to arrive at this conclusion. In particular, discuss potential wetland impacts of this alternative versus those of the proposed alternative.

- Comment: One of the criteria used to eliminate alternatives was the permitting and authorization processes for constructing and operating additional facilities would

substantially delay meeting the anticipated timeline for the Terminal Expansion. While logistical constraints can be used to eliminate alternatives, there needs to be an adequate justification as to why the meeting the timeline for terminal expansion is crucial to the project.

Recommendation: Provide a detailed justification as to why meeting the timeline for terminal expansion is crucial to the project.

- Comment: The Draft EIS states that the surrounding areas at many of the existing LNG terminals contain wetlands and would have impacts similar to, or greater than, the preferred alternative. It is unclear what information was used to make this determination.

  Recommendation: Explain in detail the information used and analysis conducted to determine the amount of wetlands or environmental impacts at existing LNG facilities would be greater than, or equal to, the preferred alternative.

- Comment: Section 5.1.13 describes an alternative expansion site comprised of upland habitat 0.3 miles from the existing facility. The old spoil bank upland habitat at this site are largely lower quality wetlands that have developed on the spoil bank. The proximity of this site to the existing facility suggests that a facility design using this site may well be possible. Wetland impacts could potentially be less than the proposed alternative when considering wetland quality and function.

  Recommendation: Analyze the alternative site while factoring in wetland quality and function when determining impacts to wetlands. Include this analysis in the Final EIS.

Wetlands Impacts and Mitigation

- Comment: The Draft EIS does not explain why the proposed location of the facility expansion laydown area is the best alternative.

  Recommendation: The Draft EIS should include detailed arguments for why the laydown area proposed is the best alternative.

- Comment: There are 8.9 acres of wetlands impacts associated with the terminal expansion that will be allowed to revert to preconstruction conditions. There is not a detailed explanation of how the impacted wetlands are expected to regenerate naturally, or what steps will be taken if the wetlands do not regenerate.

  Recommendation: EPA recommends the 8.9 acres of impacted wetlands be actively restored by planting all areas with appropriate species and density, and monitor restoration success based on preconstruction conditions. If fully successful mitigation cannot be accomplished, EPA recommends mitigating for any loss of wetland function.

- Comment: The Draft Mitigation Plan does not meet the requirements of 40 CFR Part 230 Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (the 2008 Mitigation Rule), and therefore, it does not meet the requirements of the Guidelines either. Specifically, the proposed mitigation is "out of kind." While it can be argued that trading low quality, invasive, Chinese tallow scrub-shrub wetlands and high palustrine emergent marsh (*Spartina spartinae*) located on old dredged material disposal areas, for relatively high quality brackish, tidal marsh, is a good trade, we don't believe the same can be said for trading palustrine emergent marsh, not located on the dredged material disposal sites.

  Recommendation: Propose alternate, in-kind compensatory mitigation for impacts to palustrine emergent wetlands that are not located on the former dredged material disposal area.

- Comment: The wetlands that would be impacted, and those proposed to be created with dredged material as mitigation, will not have the same land loss rates in the future. Impacted wetlands will have considerably lower land loss rates than will the created marshes. While this is not significant over relatively short time scales (i.e. 1-10 years), it will become more significant over longer time scales (20 years and beyond).

  Recommendation: Develop a solution to the problem of the proposed mitigation declining in acreage, over time, at a higher rate than the impacted wetlands. We recommend monitoring the created mitigation marsh acreage, and to consider periodic additions of new created marsh to compensate for conversion to water over time. Estimates of future additional marsh mitigation needs could be adjusted for any land loss that would otherwise occur at the impact wetlands.

- Comment: It is not clear whether the mitigation acreage proposed is acres of wetland only, or a mix of wetland and water. While an appropriate mix of wetland and water, interspersed in appropriate patterns, is probably more ecologically desirable than a solid marsh, it is important that acres of wetland aren't being exchanged for mixed wetland/water acres. In other words, if the mitigation wetland is a mix of marsh and water, the acreage necessary for full compensation will be higher than if it was solid wetland, regardless of other possible multipliers based on function.

  Recommendation: Clarify whether the acreage of proposed restored mitigation marsh is based on wetlands only, or whether it is intended to explicitly include a mix of wetlands and water. If the latter, clarify whether the number of acres of mitigation was increased to account for this. Regardless of whether the mitigation is a mix of wetland and water, the actual acreage of wetland proposed as mitigation should be a multiplier that is a function of the actual acreage of wetland to be impacted, and implications of any functional assessment done.

- Comment: The proposed standard approach to restoring wetland impacts from pipeline construction, includes only allowing natural revegetation, or perhaps seeding with an unidentified plant species, presumably for erosion control. This approach may not be very effective in some wetlands.

  Recommendation: We recommend monitoring natural vegetative recruitment into wetlands impacted by pipeline construction, and if natural vegetative recruitment does not result in an appropriate plant community after 1 year, we recommend planting the area with appropriate species of transplants at an appropriate planting density.

- Comment: The proposed approach of managing pipeline right of ways by mowing and/or application of herbicides, results in impacts to wetlands that were crossed by the pipeline. It is not clear if areas that are to be mowed are being counted as impacted wetland, or if mitigation for these impacts was proposed.

  Recommendation: Mitigate for lost wetland functions resulting from right of way management practices.

- Comment: It is unclear how much time will elapse between wetland impacts resulting from project construction (either facility or pipeline) and mitigation completion.

  Recommendation: If necessary, mitigate for any temporal losses in wetland function due to project wetland impacts.

- Comment: It does not appear that mitigation is proposed for permanent loss of trees and shrubs, or for temporary impacts to herbaceous vegetation.

  Recommendation: Mitigate for all permanent impacts to forested or shrub wetland habitat, as well as for temporal impacts to herbaceous wetlands.

- Comment: It is possible that impacts to PEM wetlands will not be of short duration. It is reasonably likely that at least some PSS wetlands will not be restored without planting within 2-4 years. Conversion of forested wetlands (PFO) to herbaceous wetlands is a major change, and should be mitigated.

  Recommendation: Plant impacted PEM and PFO wetlands with appropriate plant species at an appropriate density, and fully mitigate for conversion of PFO to PEM (bank credits). Alternately, monitor natural restoration of PEM wetlands to preconstruction conditions, plant PSS wetlands, fully mitigate for conversion of PFO wetlands to PEM wetlands, and mitigate for temporal losses due to lags in restoration of PEM and PSS wetlands.

- Comment: Section 4.4.3 states direct and long-term impacts to wetlands will be mitigated, but does not mention mitigation for indirect impacts to wetlands.

  Recommendation: Change the statement in Section 4.4.3 to reflect that indirect impacts also require mitigation.

Dredged Material Management Plan and Sediment Testing

- Comment: The Dredged Material Management Plan concludes that dredged material from the Material Offloading Facility and the access channels is not suitable for marsh creation or nourishment at J.D. Murphree Refuge.

  Recommendation: Provide a detailed explanation for the conclusion that this sediment is not suitable for marsh creation or nourishment. With containment, even highly unconsolidated clays and sediments with high organic content can effectively be used to nourish degraded marshes. Beneficial use of dredged material for marsh creation is encouraged as long as the material is of sufficiently high quality and is free of unacceptable levels of contaminants. If the sediment quality is unknown, EPA recommends testing to determine potential contamination.

- Comment: The sediments from the vicinity of the proposed Supply Dock and the flotation/access channels have not been tested for contaminants. We believe there is sufficient uncertainty to support the need for testing.

  Recommendation: We recommend testing the dredged material from these locations, and providing the data for review prior to issuance of the Corps' 404 permit.

- Comment: While the most recent data does not suggest sediment from the ship slip is contaminated, 2010 testing appeared to indicate the sediments contained a number of chlorinated pesticides in concentrations above ERM values.

  Recommendation: In light of the conflicting data presented in the 2010 and 2015 testing, EPA recommends testing maintenance dredged material from the Ship Slip annually, or before each dredging event. This testing frequency could be reduced to every three years, if after three testing events, no exceedances of water quality criteria in the elutriate samples, and no exceedances of ERM concentrations have occurred, and data quality is acceptable for making such determinations.

Cumulative Impacts

- Comment: Table 4.13.1-1 lists past, present, and reasonably foreseeable actions considered in the cumulative impact analysis but does not include a number of actions

that we believe should be listed for their impacts to coastal wetlands. Examples include the Gulf Intracoastal Waterway, the railroad that affected the wetlands in the vicinity of the facility, the spoil bank at the facility site, Keith Lake Fish Pass, oil and gas production (fluid withdrawal induced subsidence), and impoundment for wildlife management.

Recommendations: EPA recommends that FERC include the above historic actions in their cumulative impacts analysis. In addition, we recommend that FERC analyze cumulative impacts to wetlands at multiple spatial scales, including Sabine Lake estuary, the Texas coast, and the northwestern Gulf of Mexico coast.